C L A I M S

1. A local area network comprising:

a hub;

a plurality of nodes;

communication cabling connecting said plurality of nodes to said hub for providing data communication; and

a power supply distributor operative to provide at least some operating power to at least some of said plurality of nodes via said communication cabling.

2. Apparatus according to claim 1 and wherein said communication cabling comprises at least part of a structured cabling system.

3. Apparatus according to claim 1 and wherein said power supply distributor is located within the hub.

4. Apparatus according to claim 1 and wherein said power supply distributor is located outside the hub.

5. Apparatus according to claim 1 and wherein said power supply distributor is located partially within the hub and partially outside the hub.

6. Apparatus according to claim 1 and wherein said operating power supplied by said power supply distributor to at least some of said plurality nodes via said communication cabling includes backup power.

7. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner; and

said communication cabling connects said data communication concentrator via said combiner to said nodes.

8. Apparatus according to claim 1 and wherein said hub includes a data communication concentrator and wherein said power supply distributor is also located within the hub.

9. Apparatus according to claim 1 and wherein said hub includes a data communication concentrator and wherein said power supply distributor is also located within the hub and includes a power supply and a combiner, said combiner coupling power from said power supply to said communication cabling which also carries data from said data communication concentrator.

10. Apparatus according to claim 8 and wherein said data communication concentrator comprises a LAN switch which functions as a data communication switch/repeater.

11. Apparatus according to claim 1 and wherein said plurality of nodes includes at least one of the following types of

nodes: wireless LAN access points, emergency lighting system elements, paging loudspeakers, CCTV cameras, alarm sensors, door entry sensors, access control units, laptop computers, IP telephones, hubs, switches, routers, monitors and memory backup units for PCs and workstations.

12. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers, each of which is connected to an output of said power supply.

13. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of said power supply.

14. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and

a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply.

15. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply; and

said power supply includes a power failure backup facility.

16. Apparatus according to claim 3 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of said power supply.

17. Apparatus according to claim 3 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and

a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply.

18. Apparatus according to claim 4 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of said power supply.

19. Apparatus according to claim 4 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via

a filter and a SPEAR to an output of said power supply.

20. Apparatus according to claim 5 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of said power supply.

21. Apparatus according to claim 5 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply.

22. Apparatus according to claim 1 and wherein said power supply distributor is operative to provide electrical power along said communication cabling without unacceptable degradation of said digital communication.

23. Apparatus according to claim 1 and wherein said communication cabling comprises at least one twisted wire pair connected to each node and wherein power is transmitted over a twisted wire pair along which data is also transmitted.

24. Apparatus according to claim 23 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a power supply interface and a power supply;

said communication cabling connects said data communication concentrator via said power supply interface to said nodes; and

said power supply interface comprises a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each filter being connected via a SPEAR to an output of said power supply.

25. Apparatus according to claim 1 and wherein said communication cabling comprises at least two twisted wire pairs connected to each node and wherein power is transmitted over a twisted wire pair different from that along which data is transmitted.

26. Apparatus according to claim 24 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a power supply interface and a power supply;

said communication cabling connects said data communication concentrator via said power supply interface to said

nodes; and

said power supply interface comprises a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each filter being connected via a SPEAR to an output of said power supply.

27. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

each coupler has at least two ports, one of which is connected to a port of said data communication concentrator and the other of which is connected, via communication cabling, to one of said plurality of nodes.

28. A local area network node for use in a local area network including a hub, a plurality of nodes, communication cabling connecting said plurality of nodes to said hub for providing digital communication and a power supply distributor operative to provide at least some operating power to at least

some of said plurality of nodes via said hub and said communication cabling, the local area network node comprising:

a communications cabling interface receiving both power and data and separately providing power to a node power input and data to a node data input.

29. Apparatus according to claim 28 and wherein said communications cabling interface is internal to at least one of said plurality of nodes.

30. Apparatus according to claim 28 and wherein said communications cabling interface is external to at least one of said plurality of nodes.

31. Apparatus according to claim 28 and wherein said power supply distributor is operative to provide electrical power along said communication cabling without unacceptable degradation of said digital communication.

32. Apparatus according to claim 28 and wherein said communication cabling comprises at least one twisted wire pair connected to each node and wherein power is transmitted over a twisted wire pair along which data is also transmitted.

33. Apparatus according to claim 28 and wherein said communication cabling comprises at least two twisted wire pairs connected to each node and wherein power is transmitted over a twisted wire pair different from that along which data is transmitted.

34. Apparatus according to claim 29 and wherein said power supply distributor is operative to provide electrical power along said communication cabling without unacceptable degradation of said digital communication.

35. Apparatus according to claim 29 and wherein said communication cabling comprises at least one twisted wire pair connected to each node and wherein power is transmitted over a twisted wire pair along which data is also transmitted.

36. Apparatus according to claim 29 and wherein said communication cabling comprises at least two twisted wire pairs connected to each node and wherein power is transmitted over a twisted wire pair different from that along which data is transmitted.

37. Apparatus according to claim 30 and wherein said power supply distributor is operative to provide electrical power along said communication cabling without unacceptable degradation of said digital communication.

38. Apparatus according to claim 30 and wherein said communication cabling comprises at least one twisted wire pair connected to each node and wherein power is transmitted over a twisted wire pair along which data is also transmitted.

39. Apparatus according to claim 30 and wherein said communication cabling comprises at least two twisted wire pairs connected to each node and wherein power is transmitted over a twisted wire pair different from that along which data is transmitted.

40. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner, a management and control unit and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to report to said management and control unit the current consumption of a node connected thereto.

41. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation

and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to limit the maximum current supplied to a node connected thereto.

42. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to automatically disconnect a node connected thereto displaying an overcurrent condition following elapse of a programmably predetermined period of time.

43. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via

a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to automatically disconnect power from a node connected thereto displaying an overcurrent condition following elapse of a programmably predetermined period of time and to automatically reconnect the node to power thereafter when it no longer displays the overcurrent condition.

44. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR comprises:

a current sensor which receives a voltage input Vin from a power supply and generates a signal which is proportional to the current passing therethrough; and

a multiplicity of comparators receiving said signal from said current sensor and also receiving a reference voltage Vref from respective reference voltage sources.

45. Apparatus according to claim 44 and wherein said reference voltage sources are programmable reference voltage sources and receive control inputs from management & control circuits.

46. Apparatus according to claim 45 and wherein outputs of said multiplicity of comparators are supplied to a current limiter and switch which receives input voltage Vin via the current sensor and provides a current-limited voltage output Vout.

47. Apparatus according to claim 46 and wherein said outputs of said comparators are supplied to management & control circuits to serve as monitoring inputs providing information regarding the DC current flowing through the SPEAR.

48. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers each of which includes at least a pair of transformers, each having a center tap at a secondary thereof via which the DC voltage is fed to each wire of a twisted pair connected thereto.

49. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers each of which includes at least one transformer, which is characterized in that it includes a secondary which is split into two separate windings and a capacitor which is connected between said two separate windings and which effectively connects the two windings in series for high frequency signals, but effectively isolates the two windings for DC.

50. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a pair of capacitors which effectively block DC from reaching the data communication concentrator.

51. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises two pairs of capacitors which effectively block DC from reaching the data communication concen-

trator.

52. Apparatus according to claim 1 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a self-balancing capacitor-less and transformer-less common mode coupling circuit.

53. A local area network node according to claim 28 and wherein said communications cabling interface includes a separator comprising a pair of transformers, each having a center tap at a primary thereof via which the DC voltage is extracted from each wire of a twisted pair connected thereto.

54. A local area network node according to claim 28 and wherein said communications cabling interface includes a separator comprising at least one transformer, which is characterized in that it includes a primary which is split into two separate windings and a capacitor which is connected between said two separate windings and which effectively connects the two windings in series for high frequency signals, but effectively isolates the two windings for DC.

55. A local area network node according to claim 28 and wherein said communications cabling interface includes a separator comprising a pair of capacitors which effectively block DC from reaching a data input of a node connected thereto.

56. A local area network node according to claim 28 and wherein said communications cabling interface includes a separator comprising two pairs of capacitors which effectively block DC from reaching a data input of a node connected thereto.

57. A local area network node according to claim 28 and wherein said communications cabling interface includes a separator comprising a self-balancing capacitor-less and transformer-less common mode coupling circuit.

58. A local area network comprising:

a hub;

a plurality of nodes;

communication cabling connecting said plurality of nodes to said hub for providing data communication; and

a power supply distributor operative to provide at least some operating power to at least some of said plurality of nodes via said communication cabling, said power supply distributor including power management functionality.

59. Apparatus according to claim 58 and wherein said power supply distributor comprises a power management & control unit which monitors and controls the power supplied to various nodes

via the communications cabling.

60. Apparatus according to claim 59 and also comprising a management workstation which is operative to govern the operation of said power management & control unit.

61. Apparatus according to claim 60 and wherein said management workstation governs the operation of multiple power management & control units.

62. Apparatus according to claim 59 and wherein said power management & control unit communicates with various nodes via a data communication concentrator thereby to govern their current mode of power usage.

63. Apparatus according to claim 59 and wherein said power management & control unit communicates with various nodes via control messages which are decoded at the nodes and are employed for controlling whether full or partial functionality is provided thereat.

64. Apparatus according to claim 59 and wherein said power management & control unit senses that mains power to said power supply distributor is not available and sends a control message to cause nodes to operate in a backup or reduced power mode.

65. A local area network node according to claim 59 and wherein said node includes essential circuitry, which is required

for both full functionality and reduced functionality operation, and non-essential circuitry, which is not required for reduced functionality operation.

66. A local area network power supply distributor for use in a local area network including a hub, a plurality of nodes and communication cabling connecting said plurality of nodes to a hub for providing digital communication therebetween, said power supply distributor being operative to provide at least some operating power to at least some of said plurality of nodes via said communication cabling.

67. Apparatus according to claim 66 and wherein said power supply distributor is located within the hub.

68. Apparatus according to claim 66 and wherein said power supply distributor is located outside the hub.

69. Apparatus according to claim 66 and wherein said power supply distributor is located partially within the hub and partially outside the hub.

70. Apparatus according to claim 66 and wherein said operating power supplied by said power supply distributor to at least some of said plurality nodes via said communication cabling includes backup power.

71. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner; and

said communication cabling connects said data communication concentrator via said combiner to said nodes.

72. Apparatus according to claim 66 and wherein said hub includes a data communication concentrator and wherein said power supply distributor is also located within the hub.

73. Apparatus according to claim 66 and wherein said hub includes a data communication concentrator and wherein said power supply distributor is also located within the hub and includes a power supply and a combiner, said combiner coupling power from said power supply to said communication cabling which also carries data from said data communication concentrator.

74. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers, each of which is connected to an output of said power supply.

75. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of said power supply.

76. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation

and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply.

77. Apparatus according to claim 71 and wherein:

said power supply distributor includes a power supply; and

said power supply includes a power failure backup facility.

78. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of said power supply.

79. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply.

80. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of a power supply.

81. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation

and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply.

82. Apparatus according to claim 71 and wherein:

said combiner comprises a plurality of couplers and a plurality of filters, each coupler being connected via a filter to an output of a power supply.

83. Apparatus according to claim 66 and wherein said power supply distributor is operative to provide electrical power along said communication cabling without unacceptable degradation of said digital communication.

84. Apparatus according to claim 66 and wherein said communication cabling comprises at least one twisted wire pair connected to each node and wherein power is transmitted over a twisted wire pair along which data is also transmitted.

85. Apparatus according to claim 66 and wherein:

said power supply distributor includes a power supply interface and a power supply;

said communication cabling connects said data communication concentrator via said power supply interface to said nodes; and

said power supply interface comprises a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each filter being connected via a SPEAR to an

output of said power supply.

86. Apparatus according to claim 66 and wherein said communication cabling comprises at least two twisted wire pairs connected to each node and wherein power is transmitted over a twisted wire pair different from that along which data is transmitted.

87. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a power supply interface and a power supply;

said communication cabling connects said data communication concentrator via said power supply interface to said nodes; and

said power supply interface comprises a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each filter being connected via a SPEAR to an output of said power supply.

88. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation

and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

each coupler has at least two ports, one of which is connected to a port of said data communication concentrator and the other of which is connected, via communication cabling, to one of said plurality of nodes.

89. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner, a management and control unit and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to report to said management and control unit the current consumption of a node connected thereto.

90. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to limit the maximum current supplied to a node connected thereto.

91. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to automatically disconnect a node connected thereto displaying an overcurrent condition following elapse of a programmably predetermined period of time.

92. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a

plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR is operative to automatically disconnect power from a node connected thereto displaying an overcurrent condition following elapse of a programmably predetermined period of time and to automatically reconnect the node to power thereafter when it no longer displays the overcurrent condition.

93. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes;

said combiner comprises a plurality of couplers and a plurality of filters and a plurality of smart power allocation and reporting circuits (SPEARs), each coupler being connected via a filter and a SPEAR to an output of said power supply; and

said SPEAR comprises:

a current sensor which receives a voltage input Vin from a power supply and generates a signal which is proportional to the current passing therethrough; and

a multiplicity of comparators receiving said signal from said current sensor and also receiving a reference voltage Vref from respective reference voltage sources.

94. Apparatus according to claim 93 and wherein said refer-

ence voltage sources are programmable reference voltage sources and receive control inputs from management & control circuits.

95. Apparatus according to claim 94 and wherein outputs of said multiplicity of comparators are supplied to a current limiter and switch which receives input voltage Vin via the current sensor and provides a current-limited voltage output Vout.

96. Apparatus according to claim 95 and wherein said outputs of said comparators are supplied to management & control circuits to serve as monitoring inputs providing information regarding the DC current flowing through the SPEAR.

97. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers each of which includes at least a pair of transformers, each having a center tap at a secondary thereof via which the DC voltage is fed to each wire of a twisted pair connected thereto.

98. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and

a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a plurality of couplers each of which includes at least one transformer, which is characterized in that it includes a secondary which is split into two separate windings and a capacitor which is connected between said two separate windings and which effectively connects the two windings in series for high frequency signals, but effectively isolates the two windings for DC.

99. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a pair of capacitors which effectively block DC from reaching the data communication concentrator.

100. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises two pairs of capacitors which effectively block DC from reaching the data communication concentrator.

101. Apparatus according to claim 66 and wherein:

said hub includes a data communication concentrator;

said power supply distributor includes a combiner and a power supply;

said communication cabling connects said data communication concentrator via said combiner to said nodes; and

said combiner comprises a self-balancing capacitor-less and transformer-less common mode coupling circuit.

102. Apparatus according to claim 66 and wherein said power supply distributor includes power management functionality.

103. Apparatus according to claim 102 and wherein said power supply distributor comprises a power management & control unit which monitors and controls the power supplied to various nodes via the communications cabling.

104. Apparatus according to claim 103 and also comprising a management workstation which is operative to govern the operation of said power management & control unit.

105. Apparatus according to claim 104 and wherein said management workstation governs the operation of multiple power management & control units.

106. Apparatus according to claim 103 and wherein said power management & control unit communicates with various nodes via a data communication concentrator thereby to govern their current mode of power usage.

107. Apparatus according to claim 103 and wherein said power management & control unit communicates with various nodes via control messages which are decoded at the nodes and are employed for controlling whether full or partial functionality is provided thereat.

108. Apparatus according to claim 103 and wherein said power management & control unit senses that mains power to said power supply distributor is not available and sends a control message to cause nodes to operate in a backup or reduced power mode.

109. A local area network node according to claim 103 and wherein said node includes essential circuitry, which is required for both full functionality and reduced functionality operation, and non-essential circuitry, which is not required for reduced functionality operation.